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THE THIRD

A B S T R A C T

Of the State of the Mines of
BWLCHYR ESKIR-HIR
In the County of CARDIGAN.

From the Thirtieth Day of April last (inclusive) to this present Nineteenth Day of December, 1700.

By Order of the Committee.

TH E Committee since the last Printed Account of the Mines, have received several Letters from Mr. Waller, and others, to the Effect following, viz.

April the 30th. from Mr. Waller.

That the new Pit which in his last (mentioned in the former Abstract) was as if it were paved with Oar, continues in good Potters Oar; we have met with the Sun-side of the Vein, but have not yet found the North-side, so that what widens it will carry I cannot yet inform you.

The new Work widens as it goes downward, and is grown into a firm Rib of Oar; and that which was the worst part is now become as good as the rest.

We have begun a small Drift at the Shaft (E.) in the West Level, to carry off the Water, and have small sparks of Oar there.

We raise some Oar in the great Work: Benjamin Michael's Vessel is arrived with Coal from Neath: Turner's Vessel is freighted with Oar, and will sail with the first fair Wind.

May the Seventh.

Our new Pit in the Head of Curtis's Drift goes down in Oar: The new Work continues good, and the Sparr Rider Under-cuts with Oar. The Shaft at E. goes down well; the Oar there sets to the North. We continue to raise Oar out of the great Work. Benjamin Michael's Vessel will be loaded with Oar to Morrow.

May the Fourteenth.

That the new Pit is sunk down to the bottom of Curtis's Drift. We met with a Vein Rider four Foot wide: The settled Rib of Oar sets on the Sun-side; we have a mixture of Oar all over, the wideness is yet uncertain. This is like to prove a wonderful Vein in the Deep, and fine Potters Oar. We had it about 30 Yards East of this place nine Yards wide in Oar and Vein-stone: The excessive wet Weather obstructed our Men in the new Work. I have employ'd Washers to Dress up the worst of that Oar. The Shaft between L and K is now sunk. Since we set on the great Work, we have cut into the Copper Vein; and Mr. Waller stay'd all Night under ground to see the Event, which had like to have cost him his Life. We got about two Foot cut into it very rich in Oar, and could see no sign of the further side; but we durst cut no further, there came so much Water out of it, for fear it should over-set our Pumps, and drown us out. We have loaden in Benjamin Michael's Vessel, called, *The Hope of Neath*, 81 Tons of good Oar, and she will sail the first fair Wind.

May the Twenty First.

The Work men at Curtis's Drift, and new Work, go well on: They affirm they hear the Knockers to the Sun of them; and we have some Reason to believe there is another Vein there, having Shoad-Oar above which could not tumble up Hill, and therefore must come from some Vein thereabouts. The Shafts D and E are much troubled with Water; and the great Work is so strongly watered, that we have not yet been able to make any further Trial of the Copper Vein: That Vein is above two Yards wide. We have some sparks of the Lead Oar mix'd with the Copper. The *Hope of Neath* sail'd last Friday.

May the Twenty Eighth.

We continue driving from Curtis's Drift to the new Work; in which Drift we have cut about a Yard in good Oar, and are not yet at the Sun-side of the Vein. At five Yards high above the Level, we have set on six Men at 20 s. per Fathom to drive in Oar, and are in hopes that Oar will not stand us in a Noble per Ton; and as soon as they are driven out two Fathom, we will set on six Men more to drive in Oar under them. It is a glorious fine Vein, and widens in sinking as well as in driving: We shall not raise much Oar till the Drift be up to the new Work.

June the Fourth.

We have in Curtis's Drift cross'd through the Oar, but the Stone on the Sun side is a Vein Rider, so we expect more Oar on the other side of it, that Vein Rider being like to be all Oar at the Deep; The new Work continues very good, but the great Work is strongly watered, the Water that feeds

the Copper Vein being now let into it. Mr. Turner is return'd again from *Neath* with Coal, for another loading of Oar, and will be Freight'd this Week.

June the Eleventh.

In carrying on *Curtis's* Drift to the new Work, we met with a new Rib of Copper Oar joyning to the Sun-side of the Lead Oar, about four Inches wide, but how this will prove is yet uncertain. The East Level hath met with a Chink, which tho' it be thirty Yards from the Bog-work, yet has let out the water there, and we are in hopes it will dry that Work.

We have ventured again to cut into the Copper Vein from the great Work, where we find Lead as well as Copper Oar: We are got about a Yard into it, but we are afraid that Water will be too hard for our common Pumps; it is like to prove a rich Vein. We cut into this Copper Vein about four Fathoms from this place, where we found it two Yards and a half wide; and there the Copper Oar was but small like Pease, but here they are in a firm body, but strongly watered, which is the better to be liked if our Levels were up. The great Work is very good, and the new Work begins to lengthen in Oar at both ends.

Our Market on the Mountain is very good every Saturday; and we have now got a Person to read Prayers to the Miners. Mr. Turner was loaden again last Saturday with Oar, and will sail the first fair Wind.

June the Eighteenth.

The Bog-work continues draining through the Chink in the East Level: I have set Men to dress the Deads: I shall want more Miners for that Work.

The new Work gains in Oar on the Spar Rider; the Boaring Engines will be useful in raising Oar hereafter, but not in our present way of working.

June the Twenty Fifth.

We are Dressing and Timbering the Bog-work; the new Work continues rich in Oar. We are much oppress'd with water in the great Work, but we have 18 Men employ'd in raising Oar. We are cutting down a Rib that was formerly left for Stone, which proves very good hard Oar.

Mr. Waller in this Letter takes notice, That his Year for setting the Works in Order is almost expired, that he expects his Sallary for that Year according to Agreement, but that he will stand to his Offer for the rest; that tho' he has met with harder Rocks than he expected, which has delay'd the Levels, yet he has also met with other Discoveries which are sufficient to encourage him to stand his ground.

July the Second.

The Men are raising some Oar in the great Work and new Work, which the deeper we go the more it gains in Oar on the Spar Rider, which promises fair to be all Oar at the Level. Turner is loaden, but the Wind is against him.

July the Ninth.

In the Bog-work the Sludge and Dirt got into the Chink, and stopp'd the water from running away. The Levels and Shafts go well forward; the new Work mends and gains still on the Spar Rider. The great Work is fore watered. Mr. Turner sail'd yesterday for *Neath*.

July the Sixteenth.

The Water is grown too hard for our ordinary Pumps in the great Work; we must either stay till the Levels are up, or get an Engine that will force up more Water. The new Work goes on well; when our Levels are up, all these obstructions will be removed.

July the Twenty Third.

The Drift to the new Work is now in the Spar Rider, and hath a great mixture of Oar in it. We have but three Yards, or thereabouts, to the new Work, so we cannot doubt but this Spar Rider will be all Oar at the deepness of our Level.

July the Thirtieth.

Mr. Turner is arrived again at *Dovey* with Coals from *Neath*, and will be loaded with Oar this Week. We are preparing a Water-Engine to conquer the Water in the great Work till the Level is up; all the other Works go well forward.

August the Seventh.

The new Work continues very good, and the Oar in the Drift from *Curtis's* Drift is still better. The Bog-work may prove better than the great Vein, when the Levels are up to it, the Vein-Rider being five Yards wide, and like to be most of it Oar, besides four Foot in Oar on the Sun-side of it. Sir *Humphry Mackworth* is now at the Mines. Turner is loaden with Oar, and will sail the first fair wind.

August the Thirteenth.

A Flood of Water has by the weight of it forced open the passage, and carried the Water from the Bog-work to the East Level, and we are preparing to raise Oar in that Work. Several of our Men are sick of a Fever.

Sir *Humphry Mackworth* has contracted for a place to build a Cupulo in this County, very convenient for the Company, being by the side of the Navigable River *Dovey*.

August the Twentieth.

We continue to dress out the Bog-work; the East and West Level go well forward. The Shaft (D) wants fifteen Yards to the bottom. The new Work continues very good.

August the Twenty Seventh.

The new Work is increas'd in Oar this Week one Foot in breadth; *Curtis* Drift to it is all faced in firm rich Oar, and we hope will continue in Oar to the new Work, which is six or seven Foot more. Mr. *Minshall*, the Goldsmith, is now with us to view it, and to carry the good News to Sir *Humphry Mackworth* at *Mathaverne*.
Mr.

September the Fifth.

Mr. Turner is failed from Neath to London, Freight with Lead and Lytharge, of which an Invoice is inclosed.

September the Tenth.

We have struck upon Oar in sinking the Shaft at (E) in the West Level, which heads to us in the sinking, and widens downward. Sir Humphry Mackworth, Mr. Young, and Mr. Player, are set out from the Mines; Mr. Young to London, the other to Neath. Mr. Curtis and the Engineer are here.

September the Eleventh, Mr. Curtis to the Committee.

That the Ship, called, *The Hope of Neath*, which lately carried Lead and Lytharge from Neath to London, is arrived from London to Dorey, and amongst other Freight, hath brought several Criminals to Work at the Mines. That Mr. Player and he hath seen the new Discovery, and that it affords a noble sight of Oar.

September the Sixteenth.

Mr. Player having lately taken a Progress to the North and West of England, and viewed all the considerable Mines there, and afterwards the Mines of this Company, wrote a Letter:

That he was just come from the Mines, where he could not see the great Vein, or Copper Vein, the Water from the Copper Vein having newly drown'd it; but in a Shaft then sinking on it against the West Level came up, the Sinkers were come to it again quick in Oar at about ten Fathom deep, and he supposed the Engine then going to be set up, would in a short time clear the Water in the great Work, which the Miners said was very rich in Oar for many Yards high.

The new Discovery and Bog-Vein have solid Oar in them at 7 yards deep, thicker than any I saw in the North, or elsewhere, in those Mines reckoned the best in England, many of them 60, 80, and 100 yards deep, but I could not discover the full thickness of it, it inclining more than usual to the North-side. Curtis Drift is but 4 or 5 yards North of it, and in Oar, and below it, which makes me think that may be the North part of the Vein; it is about 120 yards between the New Discovery and the Bog-work, and are both so like each other in Oar Dimensions, and in the turning and winding, that it must needs be the same Vein, and no doubt proves quick between the two places. We want more Miners.

September the Seventeenth, Mr. Waller.

The Oar in the great Vein at the Shaft at E. widens downwards. We shall begin again to raise Oar in the Bog-work, this Week; we are now fixing the Engine in the great Work.

September the Seventeenth, Mr. Curtis from the Mines.

All things here have a good face, and doubt not but the Partners will receive an Encouraging Account from all hands. Sir Thomas Mackworth is now at the Mines. I shall return to London by way of Neath.

October the First, Mr. Waller.

I have receiv'd the new Apprentices, they were glad to be parted from their Irons: I have separated them in the Works as well as I can. I had four sorts of Work, and I bid them try all, and then chuse, (*viz.*) Either to Work in the Mines at the Oar, or to carry under Ground, or to Wind on the Bank, or to Pump Water.

I made the Miners their Friends, by telling them; That I would give them their Work for some time, upon condition they should teach them the Art of Mining. And I pleased many of the Criminals, by telling them, I would advance the Apprentice in his Wages as soon as he came to be a Master-Workman. Likewise I made a Speech to the Apprentices too long to insert in a Letter, but to this purpose, (*viz.*) That this was the first Essay in England of this kind, to try if Criminals would be reclaimed and made useful to the Nation, and that I hop'd they would shew a good Example to encourage it, which if they did, it would not be the saving their Lives only, but (in all probability) of several thousand more, and would be a great profit to the Nation, since it has been computed, that the Nation loses ten Pounds per Annum for every Man that is Executed: Therefore I hoped, that for the good of themselves, their Brethren, and their Country, that they would regain their lost Credit, and Serve out their Time with Cheerfulness; upon which they all promised fair, and seemed to be pleased.

Richard Collins, one of the Guard that came with them, likes the Works so well, that he intends to stay at the Mines.

Mr. Curtis and Mr. Thompson went hence to Neath last Saturday; I wished them here to have assisted me in settling my Apprentices.

I have six Men working at Oar in the Bog-work, and have board into the new Work from Curtis Drift, which hath taken that water from us; that Work is very good.

We are still sinking in Oar in the great Vein in the West Level at the Shaft E, and we hope to have that West Level up to Oar in the quick Vein at *Candlemas* next.

October the Fourth.

David Gibson, and another of the Apprentices, are run from the Mines. They did not like Pumping, so the next day they tried to draw up the Oar at the Shaft, and when they had done, they wash'd their hands, and said, They had better have been hang'd than be tied to that Employment; and, indeed, they are so Lazy, that without compulsion, they will not do any Work at all.

Note, The Men run away are since taken, and committed to Newgate, in order to their Execution. And three more having Information that the first were not punish'd, are run away since, but several of them continue still at the Mines, and are like to make good Workmen.

And now we must acquaint you, That Mr. Waller having set Bargains in all the several Works of the Mines by the Great, and having not seen his own Country in seven Years, and the Company wanting Miners, all these considerations inclined the Committee to give Mr. Waller leave to go into the North, where he has been ever since, and is now expected home every Week. We have an Account that

that he hath hired several good Miners to the Works; but since his Absence, we have had no particular Account of the progress of the several Shafts and Levels, but in general we hear, from Mr. Symon Price, and Mr. David Jones, that the Mines go on very prosperously in all parts, the Oar in the New Discovery being much richer and better than when the Committee were there, and the Oar in the Shaft (E) upon the great Vein, having settled into a firm Rib of pure Oar above half a yard wide, besides a rich mixture, the wideness of all the Shaft, and still grew wider and richer as they sunk deeper; and that all the Miners agreed, that by *Candlemas*, or *Lady-day* at farthest, the West Level would be up, in Oar, in the great Vein, and the East Level in the Bog-Vein, and New Discovery, and thereby the Partners expectations fully answered.

As to the proceedings at Neath,

I. The Smelting and Refining there is continued, and carried on Night and Day with the utmost care and diligence, and the Profit thereby appears to be considerable, being rather more than less than is mentioned in our former Accounts.

II. Sir Humphry Mackworth has carried up the Canal, from the River Neath, much higher than before, and placed his Floodgates and Sluces so convenient, that a Ship of 100 Tun may come up the Canal, and when the Tide is out, the Vessel may either be kept on float, or the two Sluces on the side of the Canal being let out, will float the Vessel in an hours time, and carry her down to the Mouth of the Chanel. The Red-Lead Mills are also finished, and are grinding our Lytharge small for the conveniency of those that desire it. Many other conveniences are made at the Works at Neath, too long to be inserted at large: And Sir H. Mackworth is now making an Artificial Waggon-way on Wooden-Rails, in the same manner as he carries his Coal to the Water-side, for the convenient and cheap Carriage of all Commodities to and fro, from the Canal to the Work-houses, and from the Work-Houses to the Canal.

III. We are now also erecting Smelting Houses in Cardigan-shire, at a place called Garege, situate on the Navigable River Dovey, of which we have taken a Lease for 99 Years Absolute; this Building will be finished in a short time, all the Iron Plates, *Storbridge*-Claybricks, and other materials for the Furnaces, being prepared at Neath for cheapness and dispatch; and we have now a good Stock of Coal in readiness for Smelting there this Winter.

The reason which induced Sir Humphry Mackworth (to whom that Matter was referred) to take so long a Lease of the Smelting-Houses in Cardigan shire, is a prospect that he hath in due time of incorporating other good Mines, into the Interest, and under the present Constitution of this Company: It being designed so to Establish this Undertaking, that the same may be continued to future Ages, as well for the Publick Good of this Nation, as for the private advantages of the present Partners, and their Successors.

IV. We have made a considerable Progress, and are in hopes in a short time, to Establish a free Vent of our Commodities, in most of the Trading parts of the World.

V. These Proceedings, and the fair Prospect that appears, by the Relation of the Gentlemen of the Committee, and other Partners who have visited the Mines this last Summer, gives great Encouragement, and has induced the Committee, (amongst other things) to buy a Ship of 120 Tuns, or thereabouts, not only for the speedy dispatch of Oar to Coal, and Coal to Oar, but that the Master thereof being fully acquainted with the Ports of Dovey and Neath, may hereafter Pilot other Ships that may be employed in the same Service, and also be a means to bring the Coasters to more moderate Terms, when they see the Company are resolved to provide Ships for themselves, if they refuse the Trade.

As to the taking the Condemn'd Criminals to Work at the Mines, as is mentioned above, the Design seems advantageous to the Publick, Charitable to the poor Offenders, and may in time become Profitable to the Company: But these few were only taken for a Tryal, and as Apprentices for Five Years, his Majesty being graciously pleased to Pardon them on that Condition, that the Company might find out by Experience, what Methods may prove effectual, and may be proper to be Humbly Offer'd to His Majesty, and the Honourable Members of both Houses of Parliament, both for the Reclaiming, and making such Criminals useful to the Nation: For tho' it is agreed by all, that his Majesty may legally Pardon Criminals on any such Condition, especially where the Men are Free, and not the least badge of Slavery used. Yet there seems a Necessity of having an Act of Parliament to make this matter generally Practicable and useful to the Nation; but at present they are under no restraint, and the Company is bound to maintain them, in Meat, Drink, and Cloaths, to be Adjusted and Settled (as in Case of other Apprentices) by the Justices of the Limits, in the County of Cardigan.

Upon the whole Matter;

As the Hardness of the Rocks, on the one side, has encreased upon us, and raised our Bargains with the Miners, from 30s. to 7l. a Fathom, which, together with a Fever on the Mountain, and the withdrawing of some of our men, delayed the carrying up of the Levels, beyond the time proposed; so on the other side, the late New Discovery (so Rich in Oar, and so near the Surface) the Dreining of the Bog-vein, the carrying up of Curtis-Level, through the hardest Rocks, the fresh Discovery of the great Vein in the West Level at the Shaft (E); the Hopes of a rich Copper Vein, and the nearness of the other Levels to the Shafts sunk down in Oar at the East and West end of the Mountain, whereby the distance is reduced to a Certainty; seems to us to be matters of no small Importance, but as they give us hopes in time, of raising large Quantities of Oar, so the Profit we actually make thereof, puts us beyond all doubt of the Goodness of it; especially when we consider, that the very silver out of these Mines, may in a reasonable time be sufficient to answer Interest, and that the Lead and Lytharge are Commodities of our own Country, not perishable in their Nature, nor like to lose their Value or Vent, either in time of War or Peace.

